

IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

Claims 1-11 (canceled)

12. (previously presented) Hollow nanoparticles for encapsulating a substance, and formed of a particle-forming protein with an ability to recognize a specific cell, wherein the protein contains at least one modified cysteine residue.

13. (previously presented) Hollow nanoparticles as set forth in claim 12, wherein the protein comprises a hepatitis B virus surface-antigen protein.

14. (previously presented) Hollow nanoparticles as set forth in claim 12, wherein at least one cysteine residue present in a transmembrane region is replaced with a hydrophobic amino acid, and/or at least one cysteine residue present outside or inside the particles is replaced with a hydrophilic amino acid.

15. (previously presented) Hollow nanoparticles as set forth in claim 14, wherein at least one cysteine residue present in a transmembrane region is replaced with an alanine residue, and/or at least one cysteine residue present inside or outside the particles is replaced with a serine residue.

16. (previously presented) Hollow nanoparticles as set forth in claim 13, wherein the hepatitis B virus surface-antigen protein contains S protein with an amino acid sequence whose cysteine residues 76, 90, 139, 147, 149, 221 and at least one of cysteine residues 137 and 138 of the amino acid sequence from its N-terminus have been replaced.

17. (previously presented) Hollow nanoparticles as set forth in claim 12, wherein the cysteine residues are modified by mutating a gene that encodes the particle-forming protein and by expressing the mutated gene.

18. (previously presented) Hollow nanoparticles as set forth in claim 17, which are obtained by transforming a eukaryotic cell with a vector including the mutated gene, and by expressing the mutated gene in the eukaryotic cell.

19. (previously presented) Hollow nanoparticles as set forth in claim 18, wherein the eukaryotic cell is an animal cell or a yeast cell.

20. (previously presented) A drug which comprises hollow nanoparticles of claim 12 in which a substance to be transferred into a cell is encapsulated.

21. (previously presented) A drug as set forth in claim 20, wherein the substance to be transferred into a cell comprises a gene.

22. (previously presented) A therapeutic method using a drug of claim 20.